REMARKS

Applicants respectfully request reconsideration of the present application in view of this response. Claims 1-13 are pending in the present application.

CLAIM AMENDMENTS

Applicants have amended claim 9 in order to correct a minor typographical error and put claim 9 more in accordance with current United States Patent and Trademark Office Practice and Procedure. Accordingly, Applicants respectfully submit that all such amendments made to claim 9 are non-narrowing, have not been made to overcome any prior art rejection, and have been made for none other than the above stated reasons. Furthermore, Applicants respectfully submit that all such amendments to claim 9 <u>do not</u> raise any new issues requiring further consideration and/or search. As such, Applicants respectfully request entry of this Amendment After Final.

PRIOR ART REJECTIONS

Rejections under 35 U.S.C. §102(e)

Claims 1-3, 5 and 9-12 stand rejected under 35 U.S.C. §102(e) as allegedly being anticipated by Piirainen (U.S. Patent No. 6, 748,031, hereinafter referred to Piirainen). Applicants respectfully traverse this rejection.

On pages 2 and 3 of the outstanding Office Action, the Examiner relies upon column 3, line 66 through column 4, line 4 for allegedly describing, "the confidence levels or probabilities of a received symbol y having one of a

plurality of values x," and column 4, lines 32-49 for allegedly describing, "the calculation of a channel estimate using the probabilities of a received symbol y having one of a plurality of values x." However, Applicants respectfully disagree with the Examiner's conclusion.

As shown in FIG. 2 (of Piirainen), a detector 200 generates a probability of an estimated symbol $\tilde{x}$ is one of the r different real or complex symbols $\tilde{x}_1,...,\tilde{x}_r$ used in transmission. The probabilities of each symbol alternative $\tilde{x}_1,...,\tilde{x}_r$ are added together and a mean value 212 is generated in a means 202.

In a second means 204 a mean value of the energy 214 of the estimated symbol $\tilde{x}$ is generated. The estimator 206 then generates a channel estimate using the mean values 212 and 214, a delayed received signal y and a previous channel estimate 216.

However, Applicants respectfully submit that Piirainen fails to teach or suggest at least, "determining at least a <u>first and second</u> confidence level," and "generating a channel estimate based on the <u>first and second</u> confidence levels," as set forth in claim 1. In contrast, while the mean value 212 may arguably describe a mean probability that an estimated symbol $\tilde{x}$ is one of r transmitted symbols $\tilde{x}_1,...,\tilde{x}_r$, the mean value 214 is merely <u>the mean value of the energy of the estimated symbol</u> $\tilde{x}$, and not a "confidence level," as set forth in claim 1. Accordingly, Applicants respectfully submit that Piirainen discloses, at most, determining <u>a single probability (confidence level)</u> and, subsequently, generates a channel estimate based only on this <u>single probability</u> (confidence level). As such, Applicants respectfully submit that

Piirainen fails to teach or suggest all of the limitations set forth in claim 1 and, thus, respectfully request withdrawal of the above rejection.

Furthermore with regard to claims 1, 5 and 9, in the "***Response to Arguments***" section on page 2 of the Office Action, the Examiner submits:

> ...the prior art describes generating the channel estimate comprising 5 taps...thus meeting the limitation of "generating a channel estimate over a time window of predetermined width.

From the above statement, it appears the Examiner is of the opinion that since the channel estimate may arguably include, "5 taps," the channel estimate is generated, "over a time window of predetermined width," as set forth in claims 1, 5 and 9. However, Applicants respectfully disagree with the Examiner's conclusion.

In Piirainen's channel estimation, the number of taps included in the equalizer is indicative of the structure of a filter (e.g., a finite impulse response (FIR) filter) or, in other words, the length of a filter used in estimating a channel. However, this filter length is not indicative of any "time window," over which a channel estimate is generated, as set forth in claims 1, 5 and 9. Instead, the filter length merely indicates, for example, the length of the pilot, to be used in the channel estimate. That is, the number of pilot bits to be used in the channel estimate. In Piirainen, each slot includes, for example, 5 pilot symbols and, thus, a 5 tap filter structure is used.

However, this 5 tap filter structure may be used to estimate a channel over an observation window of one slot (e.g., about 0.667 ms) or 5 slots (e.g.,

about 3.335 ms). If the observation window is 1 slot, each pilot bit may have a corresponding tap. If the observation window is 5 slots, the pilot may be accumulated over each slot, creating 5 accumulated pilots, and each accumulated pilot has a corresponding tap. Therefore, in Piirainen, the same 5 tap filter structure may be used for very different observation windows. Accordingly, in contrast to the above statement by the Examiner, the "5 taps," arguably included in the channel estimate (of Piirainen) is merely the filter structure and <u>not</u> indicative of a "time window," over which a channel estimate is generated, as set forth in claims 1, 5 and 9. As such, Applicants respectfully submit that Piiranen fails to teach or suggest, "generating a channel estimate over a time window of predetermined width," as set forth in claims 1, 5 and 9.

With regard to claims 2, 3 and 10-12, Applicants respectfully submit that claims 2, 3 and 10-12 are also allowable at least by virtue of their dependency on independent claims 1, 5 and 9.

CONCLUSION

In view of above remarks, reconsideration of the outstanding rejection and allowance of the pending claims is respectfully requested.

If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Andrew M. Waxman, Reg. No. 56,007 at the number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY & PIERCE, PLC

By _____ Reg # 56,007
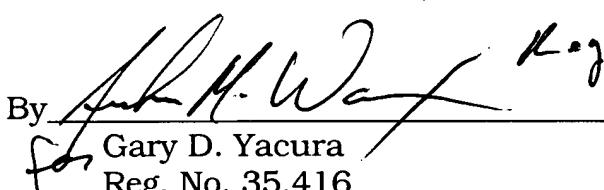
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